

REMARKS

In the above referenced case, claims 133-156 are pending. Applicant will sequentially address the issues raised by the Examiner.

I. The 35 U.S.C. §103 Rejections

Claims 133-156 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kurematsu et al., U.S. Patent No. 5,153,752 (“KUREMATSU”) in view of Konno, U.S. Patent No. 4,497,015 (“KONNO”). Applicant respectfully traverses the rejections.

A. KONNO Is Non-Analogous Art

“In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” MPEP 2141.01 (a).

1. KONNO Is Not in the Same Field of Endeavor as the Present Application

Claims 133-156 recite methods and systems for producing one or more collinear beams of light to be used in an image projection system. In contrast, KONNO discloses technology relating to photolithography in semiconductor manufacturing processes. KONNO, col. 1, lines 6-10. Technology relating to projection of images onto a screen viewable by humans is not in the same field of endeavor as technology relating to semiconductor manufacturing processes.

2. KONNO Is Not Reasonably Pertinent to the Particular Problem with which the Inventor Was Concerned

Claims 133-156 recite methods and systems for producing one or more collinear beams of light to be used in an image projection system. One of the

problems being addressed by these claims relates to the efficiency of light transmission to light altering means (e.g., liquid crystal devices). In contrast, KONNO addresses the problem relating to fine circuit pattern resolution on a semiconductor substrate. KONNO, col. 1, lines 12-17. Thus, KONNO does not address problems reasonably pertinent to the particular problems dealt with by claims 133-156.

Based on the foregoing, KONNO is non-analogous art and should not have been cited in combination with KUREMATSU to reject claims 133-156.

B. There Is No Motivation to Combine KUREMATSU and KONNO

Even if KONNO is properly cited, there is no motivation to combine KUREMATSU and KONNO.

“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggest the desirability of the combination.” MPEP 2143.01. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” Id.

KUREMATSU discloses a projection system for producing enlarged images for viewing on a projection screen. “[T]he synthetic images ... are enlargedly projected to a screen (not shown) through a projection lens system.” KUREMATSU, col. 1, lines 24-28 (emphasis added). In contrast, KONNO discloses an optical system for producing a reduced image to be printed on a wafer.

FIG. 1A illustrates the arrangement of optical members of a reduced-projection exposure system for printing on a wafer a reduced image of a circuit pattern drawn on a photomask or reticle. KONNO, col. 2, lines 44-47 (emphasis added).

Based on the foregoing, there is no motivation to combine KUREMATSU and KONNO and claims 133-156 should be in condition for allowance.

C. KONNO Teaches Away from KUREMATSU

Further, KONNO and KUREMATSU teach away from their combination.

“It is improper to combine references where the references teach away from their combination.” MPEP 2145. KUREMATSU discloses a projection system for producing enlarged images for viewing on a projection screen. In contrast, KONNO discloses an optical system for producing reduced images to be printed on a wafer. These references teach away from each other and their combination is therefore improper.

D. Neither KUREMATSU, KONNO, nor a Combination of these References Discloses or Suggests Multiple Elements Recited in the Rejected Independent Claims

Even if the combination of KUREMATSU and KONNO is proper, these references do not disclose or suggest multiple elements of the rejected independent claims.

1. Claim 133

Claim 133 recites a method of producing one or more collinear beams of electromagnetic energy comprising steps [a]-[d]. The Examiner relied on KONNO for allegedly disclosing step [a] and KUREMATSU for allegedly disclosing steps [b]-[d]. The Examiner cited Figure 2 in KUREMATSU for allegedly discloses these steps.

Specifically, in claim 133, element [c] recites “combining the altered separated beams of electromagnetic energy into a single collinear beam of electromagnetic energy...” and element [d] recites “resolving from the single collinear beam of electromagnetic energy a first resolved beam ... and a second resolved beam” As will be shown below, KUREMATSU fails to disclose or suggest at least steps [c] and [d] as recited in claim 133.

a. KUREMATSU Does Not Disclose Step [c]

In Figure 2 of KUREMATSU, “reflected image light components” are combined by the first to fourth dichroic mirrors (24a-24d) into two separate beams of combined light to be resolved by two separate beam splitters (21 and 23).

KUREMATSU, col. 7, lines 30-31.

At this time, the synthetic light which was synthesized by the first and second dichroic mirrors 24a and 24b (the first beam of combined light) is again led to the polarizing beam splitter 23. The synthetic light which was synthesized by the third and fourth dichroic mirrors 24c and 24d (the second beam of combined light) is again led to the polarizing beam splitter 21. KUREMATSU, col. 7, lines 31-37 (emphasis added).

In contrast, step [c] of claim 133 recites “combining the altered separated beams of electromagnetic energy into a single collinear beam of electromagnetic energy...” Based on the foregoing, KUREMATSU does not disclose or suggest at least step [c] of claim 133 and this claim should be in condition for allowance.

b. KUREMATSU Does Not Disclose Step [d]

In KUREMATSU, the two separate combined beams of light are resolved by two separate beam splitters (21 & 23) into four resolved beams. KUREMATSU, col. 7, lines 31-48.

In contrast, step [d] of claim 133 recites “resolving from the single collinear beam of electromagnetic energy a first resolved beam ... and a second resolved beam” Thus, KUREMATSU also does not disclose or suggest step [d] of claim 133 and this claim should be in condition for allowance.

2. Independent Claims 139, 145 & 151

Independent claims 139, 145 & 151 recite substantially the same limitations as claim 133 as discussed above in Section II.D. Based on the foregoing arguments with

respect to claim 133, claims 139, 145 & 151 should also be in condition for allowance.

3. Dependent Claims 134-138, 140-144, 146-150 & 152-156

Dependent claims 134-138, 140-144, 146-150 & 152-156 are dependent on independent claims 133, 139, 145 & 151, respectively. Based on the foregoing arguments with respect to the independent claims, these dependent claims should also be in condition for allowance.

E. Conclusion

Based on all of the foregoing, Applicant respectfully submits that the combination of KUREMATSU and KONNO was improper, and even if the combination were proper, claims 133-156 are not unpatentable over these references.

III. Conclusion

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance. Should the Examiner believe that a telephone interview would help advance the prosecution of this case, the Examiner is requested to contact the undersigned attorney.

Respectfully submitted,

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